Final Report

A User-Friendly Crop Information System for Indiana Agriculture

A project supported by the
Indiana Value-added Grant Program
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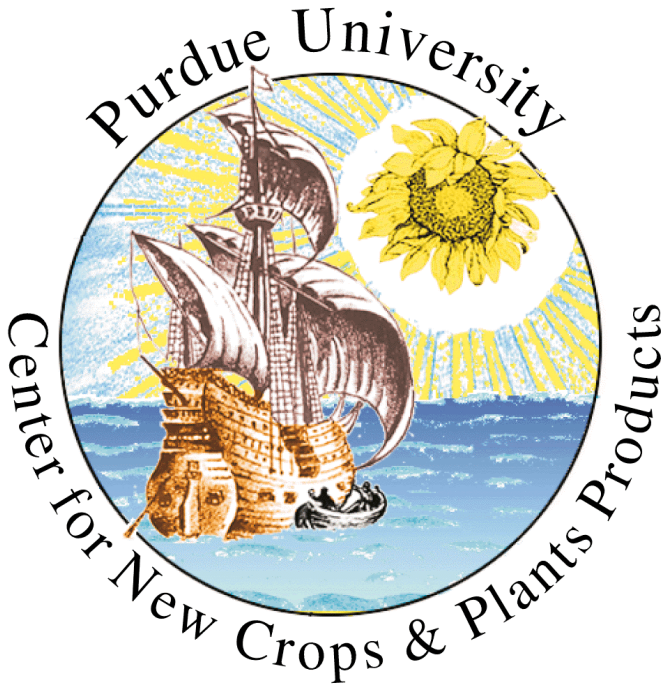

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SUMMARY

A site-specific source for crop information was developed for the State of Indiana as part of a national program called NewCROP (New Crop Resource On-line Program) aimed at growers, researchers, cooperative extension services, marketers, and the commercial industry serving agriculture. The program was designed to deliver instant topical information on crop plants. It includes linkage to crops based on either a comprehensive index using common and scientific names (Crop INDEX) or via a search engine (CropSEARCH). The information on corps is based on in-depth information prepared by crops experts (FactSHEETs), information form the proceedings of national new crop symposia, crop monographs, and links to outside sources. A portion of NewCROP concentrates specifically on herbs, spices, aromatic and medicinal plants (Aromatic-MedicinalPLANTS). Other useful data bases include information on import permits, phytosanitary certificates, quarantine, and inspection information (IMPORT-EXPORT), information on species consumed in times of food scarcity (Famine Foods), directories of researchers and experts (CropEXPERT) and announcements (CropEVENTS). A site-specific retrieval system (CropMAP) to identify current and alternative crops was developed for Indiana. The interactive map of Indiana contains specific information on 92 counties. State information includes geopolitical map, ecoregions, and hardiness zones. Each county contains maps, extension links, crop statistics, information on crop choice, and marketing information. CropMAP has been extremely and now received 4 million hits in 2000 and is expected to receive 5 million in 2001. It has become the most useful current source of information on crops in the United States.

INTRODUCTION

Scope of the Project

This project has been underway for three years based on two value-added awards and a one year no cost extension. The major goal of the project was to develop, expand, and enrich the NewCROP website in order to provide a user friendly electronic source of crop information to the citizens of Indiana. We envisioned this source of information would be useful to the entire agricultural community: growers, researchers the cooperative extension services, marketers, and the commercial industry serving agriculture. A feature called CropMAP has developed into a national program using Indiana as a model system. In the state of Indiana we emphasized site specific information based on counties.

PROJECT RESULTS

A. NewCROP website

The NewCROP website is a dynamic program with an ongoing enrichments of databases and crop information. At the end of 2001 the program continues as an on going resource of the Purdue University Center for New Crops and Plant Products. The URL is: www.hort.purdue.edu/newcrop. The components of the NewCROP website are listed below.

CropINDEX and CropSEARCH. These are tools to enable users to access crop information. CropINDEX is an alphabetical list of scientific and common names of crops linked to the crop database. These names are contained in a single list for ease of access. CropSEARCH is a search engine to access crop information using key words such as crop names or authors. Information on the use of CropINDEX and CropSEARCH can be accessed by a clicking on the **Help** link.

CropMAP. This is a nation-wide, location-specific crop information system. Indiana has been used as a model system so information is most extensive here (Fig 1). CropMAP is based on three concepts: (1) the development of an interactive state maps; (2) the incorporation of country crop statistics from the US Census of Agriculture of 1992 and 1997; and (3) the developments of crop lists by state experts subdivided into traditional, recommended crops, experimental crops, and non-recommended crops. Each crop is linked to detailed information available on our databases and enriched by extension information.

Basic infrastructure information is available for all states of the United States. This includes hardiness zones and ecoregion maps for each state. Specific information is presented for each of the 3,148 counties in 50 states including geopolitical maps and links to county extension offices. Crop statistics are available for each state and for each county within the state based on the most recent US Census of Agriculture data arranged in a reader-friendly format based on commodity groups (grains, forages, fruits, vegetables, etc.). These state and county pages can be accessed either by image maps or by text links. The CropSELECT feature provides information on traditional, recommended crops, experimental crops, and non-recommended crops for specific areas within the states. The CropSELECT portion of the map is organized for Indiana as well as Oregon, Nebraska, and Missouri. In Indiana site-specific market information by county is available. This includes information on produce, specialty, grain, and livestock markets.

Current Projects. This link includes information on current projects at the New Crop Center including: Hoosier Botanicals™, Hoosier Fresh™, PRI Apple Disease Resistant Apple Breeding Program, Midwest Apple Improvement Association, and History of Horticulture

CropREFERENCES. Linkage to publications (treatises, books, etc.) on crops organized by commodity groups.

CropEXPERT. A directory of new crop resource personnel organized by crop commodity groups.

NewCropEVENTS. An updated list of selected events such as conferences, workshops, and symposia.

NewCrop DISCUSSION GROUP. An e-mail discussion group for people interested in new crops. This enables users to solicit information on topics related to crops from other subscribers. On September 31st, 2001 there were 403 subscribers.

Aromatic-MedicinalPLANTS. Information on herbs, aromatics, and medicinal plants imbedded in the crop database. This includes plant/crop descriptors, a guide to herb varieties, a directory of herb seeds and plants, searchable databases of companies in the botanical products and flavor, fragrance and essential oils industries, and links to related web sites

IMPORT-EXPORT. Information on plant quarantine and phytosanitation permits listed by countries.

Famine Foods. A list of unconventional food plants that are consumed in times of food scarcity and famine.

NewCrop LINKS. Connections to related web sites, external databases, and libraries. These are grouped under the following topics: agriculture, arboreta, botanical gardens, museums, botanical information, horticulture and gardening, genetic resources, landscape & ornamental, libraries, mailing lists & newsgroups, marketing, organizations & societies, new crops & new uses organizations, newsletters, universities including extension services, and miscellaneous

B. Publications

The New Crop Center has produced four books based on the Proceedings of National New Crop Symposia. In addition the first three books were organized on a searchable CD-ROM entitled New Crop Compendium. A fifth book based on the symposium to be held in 2001 is in preparation. The entire text of these publications can be found on the NewCROP website.

Janick, Jules and J.E. Simon (eds.). 1990. Advances in New Crops. Timber Press, Portland, Oregon.

Janick, Jules and J.E. Simon (eds.). 1993. New Crops. John Wiley and Sons, Inc., New York.

Janick, Jules (ed.). 1996. Progress in New Crops. ASHS Press, Alexandria, Virginia.

Jules Janick and Anna Whipkey (eds.). 1998. New Crop Compendium. CD-ROM. Purdue University and FAO, Rome.

Janick, Jules (ed.). 1999. Perspectives on New Crops and New Uses. ASHS Press, Alexandria, Virginia.

Janick, Jules (ed.). 2002. Trends in New Crops and New Uses. ASHS Press, Alexandria, Virginia. (in preparation).

C. Web Enrichment

The NewCROP website is enriched with unique types of information. These include FactSHEETs provided contributors which are edited and reviewed by the Center and extension publications. In addition several publications that are unavailable, out of print, or hard to find or anywhere else can be found on the NewCROP site, e.g.: J.A. Duke, 1983, Handbook of Energy Crops; J.F. Morton, 1987, Fruits of Warm Climates; M.S. Lowman and M. Birdseye, 1946,

Savory Herbs: Culture and Use; A.F. Sievers, 1930, The Herb Hunters Guide; J.R. Magness, G.M. Markle, C.C. Compton, 1971, Food and Feed crops of the United States.

D. Evaluation and Feedback

Presentations on the website have been held each year at the Indiana Horticultural Congress.

The success of NewCROP can be ascertained from web server statistics as shown in Fig. 2. Use of NewCROP shows an increasing trend. Our website is the most useful current information on crops in the United States and received approximately 4 million hits in 2000. In 2001 the NewCROP site is averaging over 510,000 hits per month.

An on-line survey was added to the site in 2001. Results indicate most respondents found the site easy to use and that two-thirds of respondents found the information they were seeking on the NewCROP site.

CONCLUSIONS AND FUTURE PROSPECTS

1. NewCROP has been established as the most widely used source of crop information on the web. It is widely used in the United States. About 25% of usage is international with 87 countries represented.
2. Future success of NewCROP is dependant on continued update and enrichment. The support from the Value Added Center has been critical in obtaining additional support for this website and funds will be available through 2002 from our participation in the Crop Diversification Center funded by the Cooperate State Research, Education and Extension Service (CSREES) Fund for Rural America Program.
3. NewCROP has little information on ornamental or forest crops and this gap needs to be filled.
4. Although the site is widely used by researchers and industry personnel extension agents need to be encourage to familiarize growers with the site.